Fun with Ex

Helen Bradley

OFFICE SUITE
TRAINING
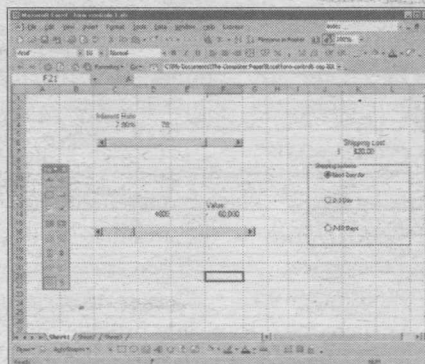
Few people know Excel's form controls, and even fewer understand them. It's a shame, because they are an easy and fun method of entering data into worksheets. Form controls include sliders, spinners, combo boxes, and option buttons that you add to your worksheets to automate data-entry tasks.

This month we'll look at some of these controls. Once you've worked through the examples, you'll have a good grasp of the basics and know how to tweak the controls to suit your own requirements. This introduction should help you understand even the form controls we didn't have room to cover here.

Your first control

Start with a blank worksheet and choose View, Toolbars, then Forms. (Curiously

You can create fun and easy ways to enter data into a worksheet using form controls.

this is where you can make your first and biggest mistake: if you choose the toolbar called Control Toolbox, the rest of this project won't work.) From the Forms toolbar, click the Scroll Bar button and click and drag the scroll bar so it appears horizontally on your worksheet. It will look just like a scroll bar on the Excel window, but this one can be used to enter data into the worksheet. You can also create vertical scroll bars using the same method.

< SMALL OFFICE TECHNOLOGY >

xcel controls

Right-click the horizontal scroll bar and choose Format Control, then select the Control tab. This is where you set the behaviour of the control. Enter these values:

Current value: 20

Minimum value: 0

Maximum value: 3000

Incremental change: 10

Page change: 100

Cell Link: D4

Click OK, click away from the scroll bar so it's no longer selected, then test it. Notice that clicking an arrow changes the value in cell D4 by 10 (the incremental change value), and clicking the scroll bar on either side of the handle alters the value by 100 (the Page change value). The scroll bar controls the value in cell D4 because you set it up to link to this cell.

Overcoming limitations

Now that you've discovered how simple it is to create a scroll bar control, you can add them to any worksheet and use them to alter the value in a cell. However, there is a limitation: controls like the scroll bar and the spinner can only provide integer values between 0 and 30,000.

You can easily get around this by scaling the value a control provides to produce an enormous range.

Consider this situation: you want to use a control to provide an interest rate that is between 0 and 10 percent with increments of 0.1 percent.

To do this, set your control up with these values:

Current value: 50

Minimum value: 0

Maximum value: 100

Incremental change: 1

Page change: 10

Cell Link: D4

Click OK, then enter the formula =D4/1000 into cell C4 and format the cell to display percentage values and two decimal places.

Now test the scroll bar. It provides the exact values we needed in cell C4 and it
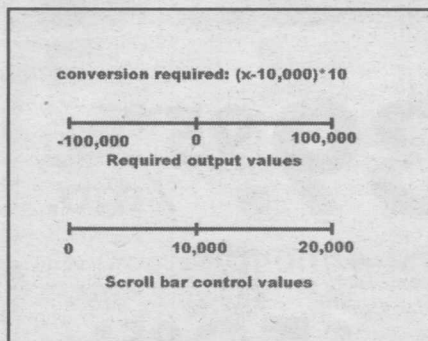
Fun with Excel controls

does it because of the combination of the values provided by the scroll bar in cell D4.

There are any number of different number/formula combinations you could have used.

We came up with the one we used by looking at the smallest increment (0.1 percent), which is the number 0.001, and the largest value (10 percent), which is the number 0.1.

As the control can only provide integers, we looked for the number that when multiplied by the increment gave the value of 1—in this case 1,000. Then it is a simple process to multiply the maximum value for the interest rate (10 percent or 0.1) by 1,000 to get the maximum value for the scroll bar (100). Use these values for the scroll bar, then divide the result by the value 1,000 to get the range you need.

Another situation you're likely to encounter involves negative values. For example, you want the scroll bar to provide values from -100,000 to 100,000 with increments of 1,000 and page changes of 10,000. We'll use a maximum value in the scroll bar of 20,000 (for ease of calculation) and a minimum of 0—it may help to create a number line to see how the numbers will relate to each other.

conversion required: (x-10,000)*10

-100,000   0   100,000
Required output values

0   10,000   20,000
Scroll bar control values

A number line that shows the relationship between what the scroll bar control gives you and what you need can help you create the required formulas.

The calculation that converts a number in the range of 0 to 20,000 to a value in the range -100,000 to 100,000 is to subtract 10,000 and then multiply by 10. So, alter your scroll bar values as follows:

Current value: 10000
Minimum value: 0
Maximum value: 20000
Incremental change: 100
Page change: 1000
Cell Link: D4

Click OK. Now enter this formula =(D4-10000)*10 in cell C4 and format the cell to display integers and no decimal places. Try out your new scroll bar to make sure you get the desired result.

Option buttons

Another tool you can use is the option button control. These are commonly used in dialogue boxes. They are always grouped together and have some visible border around them to show how they are grouped. There are always two or more of option buttons, and users can only select one—choosing one automatically deselects all the others.

You can create your own set of option buttons to perform a task where only one value can be selected. For example, an order can be sent overnight, in two to three days, or seven to 10 days—information you can also use to calculate shipping rates.

To do this, click the option button tool and draw three option buttons on the worksheet, right-click each and choose Edit Text, then type in the shipping choice. Now right-click one of the controls and choose Format Control and choose cell J7 as the Cell link and click OK.

Test the option buttons by clicking each in turn. Notice that selecting on automatically deselects the others and that the value returned in cell J7 is 1, 2, or 3 depending on the option button selected. You don't have a grouping for these buttons but you can add one if you like around them all. If you need to have more than one set of option buttons on a worksheet, group each set together so they work independently of each other. To create a grouping for these option buttons, click the Group Box tool and draw a group box around all the option buttons to enclose them. Right-click the box, then choose Edit Text to change the text label for the group.

To see how you can use the values from the option button to calculate shipping, assume that it costs $20 for overnight, $12 for two to three days, and $6 for seven to 10 days. We'll write a formula in cell K7 to calculate the shipping based on the value that the option buttons return in cell J7. Enter =CHOOSE(J7,20,12,6) into cell K7, then test the result.

Combo box

Use the combo box tool to provide users with a dropdown list of options. When they select the option from the list, you can use it to draw other data from the

list into the worksheet. For example, if you have a list of customers, account numbers, and discount rates and you want to automate the process of sending an invoice, a combo box can do the work for you. All you need do is to set up the data as a worksheet template and use it whenever you need to send an invoice.

To create the basics of the system using a combo box, open a new workbook, type some customer names (three or four is all you need) on Sheet2 in column A, account numbers in column B, and discount values in column C.

Now select the area into which you added your data, choose Insert, Name, Define, type the name Customers, and click OK. Switch to Sheet1 and create a combo box in cell C3, widening column C so it is about triple its default width, and size the combo box to fit in that cell. Right-click the combo box, choose Format Control, select the Control tab, and set the Input Range to Customers and the Cell Link to D3, and click OK.

Now try out the combo box by clicking the dropdown arrow and selecting a customer from the list. When you do, the chosen name displays in the combo box and cell D3 displays its value in the list (starting at "1" for the topmost entry).

To extract the customer number from the list on Sheet2 using the data from the Combo box, type =INDEX(Customers,D3,2) into cell E3, then type =INDEX(Customers, D3,3) in cell F3. The INDEX formula takes the list you've called Customers and looks for the value at the intersection of the row and column you specify in the formula (row first, column second). In the case of the formula in cell E3, you've specified the row currently showing in cell D3 and column 2, in the formula in cell F3 it's the row in cell D3 and column 3. The simple INDEX formula is useful when you know the row and column number of the data you want to extract.

Checkboxes

A checkbox returns a value of true or false, so it's used when only one of two settings is possible: on/off, yes/no, or true/false. For example, you may offer to insure parcels, so a customer can either choose yes or no. To see how this works, add a checkbox into cell G3, right-click it, choose Edit Text, then type Insurance.

< SMALL OFFICE TECHNOLOGY >

Right-click the control, choose Format Control, Control tab, set the Cell link to H3, and click OK.

Test the checkbox and note that cell H3 displays True or False according to the state of the checkbox. Use an IF function to make a calculation based on this value, for example add the formula =IF(H3,5,0) to cell I3. Now test the checkbox and see that the value in cell I3 varies according to whether Insurance is selected or not. When you're using form controls that return values you are using again in formulas, and where you don't want to use or see the value returned,

hide the relevant column of the worksheet. An alternative is to have the values returned but have the controls appear on another sheet (create the cell link on Sheet2, for example), so you only see the result of the final calculation.

You'll find most of the form controls are easy to use. The most complex are the spinner and scroll bar because of the need to scale the values they provide. ❏

Helen Bradley specializes in writing hands-on tutorials. Her columns appear in a number of publications in Australia, the U.K., and the U.S. Contact Helen at helen@helenbradley.com.

Security consciousness raising

but it is specialized content and Soltrus/RedSiren includes material from experts in the various subjects covered. As well, setting up and maintaining the infrastructure for online courses is complicated and requires continual maintenance.

Students are paying for the convenience of being able to log on and review course material at any time—even the middle of the night.

As well, the price range is cheaper than

many day-long classroom courses. Both courses and exams can be accessed for one year after registration.

At this price, these courses should appeal to employers with a limited training budget.

And having a more security-savvy workforce could benefit an organization's bottom line over the long-term, by reducing the number of security-related IT problems and maintenance costs and increasing productivity.

A little knowledge is a good thing. ❏